



# Naval Medical Research and Development

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## News Releases

### Beyond the Battlefield: Using Research to Improve Wounded Warrior Care and Quality of Life

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120209-N-KR503-012 SAN DIEGO (Feb. 9, 2012) Marine Cpl. Toran Gaal, assigned to the Marine Wounded Warrior Battalion-West detachment at Naval Medical Center San Diego (NMCS), walks on his new prosthetics in the Comprehensive Combat and Complex Casualty Care facility at NMCS. This is the second time Gaal is walking since he lost both legs on June 26, 2011 from an improvised explosive device while deployed to Sangin Afghanistan. (U.S. Navy photo by Mass Communication Specialist 3rd Class Jessica L. Tounzen/Released) (photo from Navy.Mil)

SAN DIEGO – Thanks to advances in military medicine and personal protective gear, service members injured in combat during Operation Enduring Freedom, Operation Iraqi Freedom, and Operation New Dawn have the highest survival rate in modern history.

Approximately 55,000 military personnel have been injured in these conflicts—as many as 16,000 of them so severely, they likely would not have survived had they sustained the same wounds in previous conflicts.

Surviving the battlefield is often just the beginning for injured service members, the first step on the road to recovery and healing. The journey may be long because, in addition to the impact of

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their physical trauma, many of these wounded warriors also bear psychological scars that may manifest as depression or post-traumatic stress disorder (PTSD).

Military leaders and medical personnel were quick to realize that these battlefield injuries could have long-term consequences for service members. That's when Michael Galarneau, director of operational readiness and deployment health at the Naval Health Research Center (NHRC), stepped up with a solution—the Wounded Warrior Recovery Project (WWRP), a longitudinal study to better understand the impact of the physical and psychological injuries on combat-injured service members' quality of life.

“The Military Health System has provided cutting-edge care to our combat-injured service members,” said Galarneau. “But, we also know that some of the effects of their injuries may not be apparent for several years and we don't fully understand what the long-term impact is going to be on their quality of life.”

According to Galarneau, the more we understand the aftermath of those injuries, how they impact everyday life, the better the Military Health System can support their recovery and rehabilitation processes and improve their quality of life—this is the goal of the Wounded Warrior Recovery Project.

The WWRP was designed by Galarneau to collect and examine quality of life data from injured Navy, Marine Corps, Army, Air Force, Reserve, and National Guard personnel. Enrollment of participants began in 2012.

The study was originally intended to survey combat-injured service members by mail and telephone and conduct a follow up survey in three years, but it quickly became clear to the team that a web-based survey would be a better format, given the high mobility of military populations. They also learned that wounds sustained during combat weren't the only types of injuries that could have a lasting impact on service members.

“As we started collecting data and analyzing the information, we realized the impact of all injuries, not just those that occurred on the battlefield, was profound and the need for this research was great,” said Galarneau. “To fulfill this need, we expanded the focus of the study to include all injuries sustained during military service, not just combat-related ones, and extended our follow-up to 15 years. Initially, we intended to survey 9,000 service members, but now we plan to reach over 55,000.”

As the project grew, so did the team, and researchers with expertise in epidemiology, psychology, nursing, biostatistics, and public health were selected to conduct the study.

Potential participants for the study are identified using the Expeditionary Medical Encounter Database (EMED), a tri-service data repository developed by NHRC that contains objective clinical and injury data on U.S. military personnel injured in overseas contingency operations. Service members eligible for enrollment in the WWRP include those with any measurable or quantifiable injury, including battle and non-battle injuries.

Outreach strategies aimed at maintaining a connection with study participants include sending postcards on national holidays, sharing study results and project news, and partnering with

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organizations that serve wounded warriors such as Naval Medical Center San Diego, Wounded Warrior Battalion-West, Center for the Intrepid, DoD/VA Extremity and Amputation Center of Excellence, and Navy-Marine Corps Relief Society. Research findings are also shared by publishing in scientific journals, adding to the body of knowledge about long-term quality of life after injury.

Currently, more than 4,500 service members have been enrolled, including over 250 prosthetic and orthotic users who provide important information about the impact and usefulness of their devices. The data collected by the WWRP is growing as well with 700 surveys completed in the first year, more than 3,500 in the second year, and nearly 4,000 last year. To date, over 12,000 surveys have been completed.

Initially, the survey measured self-reported quality of life, depression, and PTSD, but researchers have since expanded the survey to include additional assessments of pain and social connections, which are both important to overall quality of life.

The WWRP team is also examining how quality of life is associated with specific types of injuries, such as amputation, which past research has not adequately addressed.

“Quality of life is a very complex, multifaceted construct that includes both objective and subjective measures of health and well-being,” said Galarneau. “We look at several variables like injury type or severity when evaluating to what extent they matter in terms of quality of life.”

All of this information will be used to learn more about how living with an injury affects all facets of quality of life, from daily living activities such as self-care to psychological well-being.

“The Wounded Warrior Recovery Project seeks to identify injury and deployment-related factors which may diminish later quality of life,” said Galarneau. “Our intent is to share study findings with policymakers and health care providers so they can focus on future policies, treatment efforts, and rehabilitative interventions that move the quality of life meter for wounded warriors.”

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